RH850 Family
Code Flash Library Type01 V1.03
Release Note

R20UT2844EJ0101
Rev.1.01
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Thank you for using the RH850 Family Code Flash Library Type 01 V1.03

This document contains notes and cautions for using the RH850 Family Code Flash Library Type 01. Please read this document before use.

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1. Definition of Terms

The terms used in this release note are defined below.

Table 1 Definition of Terms

Definition of Terms	Description
FCL	RH850 Family Code Flash Library Type01
GHS	Green Hills Software, Inc.
REC	Renesas Electronics Corporation

2. Target Product

This release note applies to the product listed in Table 2.

Table 2 Applicable Product

Product Name	Product Ver.	ZIP File Name	ZIP Ver.
RH850 Family Code Flash Library Type01	V1.03	JP_R_FCL_RH850_T01_V1.03_B_E	V1.03B

3. Target User's Manual

Table 3 shows the user's manual of the target product indicated above.

Table 3 Target User's Manual

User's manual name	Document No.
RH850 Family Code Flash Library Type01 User's Manual	R01US0069EJ0102

4. Revisions

Table 4 provides information on updates to this version in section 2, Target Products.

Table 4 Revision History

No.	ZIP Ver.	Target Library	Description
1	V1.03B	Common to REC and GHS versions	1.Function Improved Processing for control of One Time Programming (OTP) has been sped up. 2.Problem fixed The following problem has been fixed: - With setting the value of the CPU operating frequency This problem was announced by Renesas Tool News Document No. 140401/tn7. For details of the problem, go to: http://tool-support.renesas.com/eng/toolnews/140401/tn7.htm This page will be opened on April 21, 2014. 3.Internal Processing Improved (1) Improvement of ID authentication control (2) Optimization of processing for address calculation (3) Support for extended functions (4) Changes to names in macro definitions
		User's Manual	There is no correction item.

Table 5 provides information on updates to the previous version in section 2, Target Products.

Table 5 History of Updates to the Previous Version

No.	ZIP Ver.	Target Library	Description
1	V1.01A	GHS version	Upgrade from E1.00f (product version) to V1.01 is supported. 1. Corrected the problem that the OTP bit in the user area is also controlled if the OTP bit in the user boot area is controlled. 2. Deleted the error value R_FCL_ERR_CMD_UNSUPPORTED. 3. Added the R_FCL_CMD_ENABLE_LOCKBITS command and the R_FCL_CMD_DISABLE_LOCKBITS command. 4. Changed the way of controlling the R_FCL_CMD_SET_OTP and R_FCL_CMD_SET_OTP commands. (For how to control the commands, see the user's manual.)
		User's Manual	Revised to Rev. 1.00.
2	V1.01B	GHS version	There is no correction item.
		REC version	The REC version FCL V1.01 has been newly added to the ZIP file.
		User's Manual	Revised to Rev. 1.01.
3	V1.02A	REC version	Upgrade from V1.01 (product version) to V1.02 is supported. ・Eliminated No. 2 in table 6, Restrictions.
		GHS version	Upgrade from V1.01 (product version) to V1.02 is not supported.
		User's Manual	Revised to Rev1.02.

5. Restrictions

There are no restrictions on this version.

6. Notes

Table 6 shows a note on section 2, Target Products.

Table 6 Note

No.	Note
1	The following warnings are issued during building in the REC version FCL V1.02 or later (product version), but they do not indicate any operational problems. W0561322:Section alignment mismatch: "R_FCL_CODE_USR.text" W0561322:Section alignment mismatch: "R_FCL_CODE_RAM.text" W0561322:Section alignment mismatch: "R_FCL_CODE_ROMRAM.text" Warning messages can be controlled by the CubeSuite+ option setting. For details, see the CubeSuite+ User's Manual: RH850 Build.
2	In some cases of attempted access by the FCL to the extended user area, access will actually be to the block 0 of the user area since the selected area may not be switched from the user area to the extended user area due to a restriction of the device hardware. For more information, contact your sales company or distributor. Example: When the FCL is used for erasure of a block in the extended user area, block 0 of the user area is erroneously erased.

7. Support Tools

Table 7 shows the tools supported by the target product.

Table 7 Supported Tools

Tool Name	Version
GHS Integrated Development Environment MULTI C compiler	V6.1.4 or later 201255 or later
CC-RH compiler	V1.00.00 or later

Note: Use of the latest version is recommended.

Check the specifications and cautions in the user's manual of the supported tool before use.

8. Folder/File Structure of the Target Product

Table 8 shows the folder/file structure in the "JP_R_FCL_RH850_T01_V.x.xx_x_E" [Note1] folder of the target product.

Table 8 Folder / File Structure

Folder			File	Content
FCL	GHS	LIB	R_FCL_RH850_T01_GHS_Rxx.a	GHS version FCL library file (22-register mode)[Note2]
		INC	r_fcl.h	GHS version FCL header file
			r_fcl_types.h	GHS version FCL type definition file
			r_typedefs.h	GHS version type definition file
	REC	LIB	R_FCL_RH850_T01_REC_Rxx.lib	REC version FCL library file (common-register mode)[Note2]
		INC	r_fcl.h	REC version FCL header file
			r_fcl_types.h	REC version FCL type definition file
			r_typedefs.h	REC version type definition file
SAMPLE			fcl_descriptor.c	Descriptor file
			fcl_descriptor.h	Descriptor header file
Read me			TERMS AND CONDITIONS FOR USING THE SOFTWARE.pdf	Terms and conditions for using the software

Notes 1: Since “x” in this table means a version number or revision number, these numbers are omitted.

2: Only a single file is supplied because this register mode supports other register modes.

9. Debugging

To check the cautions and notes on the use of the debugger and emulator, refer to the user's manual of the product in use.

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Revision Record

The history of revisions from the previous versions of the product described in this release note is given below.

Rev.	Date	Description	
		Page	Summary
0.01	Nov 21, 2013	—	First edition (preliminary) issued
0.02	Nov 29, 2013	—	Added REC version library
1.00	Dec 13, 2013	—	Changed the version number of FCL from E1.03 to V1.03.
1.01	Apr. 21, 2014	—	Included update to the revision history for the target product. Stated that all restrictions have been lifted. Added an item on notes in section 6.

General Precautions in the Handling of MPU/MCU Products

The following usage notes are applicable to all MPU/MCU products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

1. Handling of Unused Pins

   Handle unused pins in accordance with the directions given under Handling of Unused Pins in the manual.

   — The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible. Unused pins should be handled as described under Handling of Unused Pins in the manual.

2. Processing at Power-on

   The state of the product is undefined at the moment when power is supplied.

   — The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the moment when power is supplied.
   In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the moment when power is supplied until the reset process is completed.
   In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the moment when power is supplied until the power reaches the level at which resetting has been specified.

3. Prohibition of Access to Reserved Addresses

   Access to reserved addresses is prohibited.

   — The reserved addresses are provided for the possible future expansion of functions. Do not access these addresses; the correct operation of LSI is not guaranteed if they are accessed.

4. Clock Signals

   After applying a reset, only release the reset line after the operating clock signal has become stable. When switching the clock signal during program execution, wait until the target clock signal has stabilized.

   — When the clock signal is generated with an external resonator (or from an external oscillator) during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Moreover, when switching to a clock signal produced with an external resonator (or by an external oscillator) while program execution is in progress, wait until the target clock signal is stable.

5. Differences between Products

   Before changing from one product to another, i.e. to a product with a different part number, confirm that the change will not lead to problems.

   — The characteristics of an MPU or MCU in the same group but having a different part number may differ in terms of the internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

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